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**Research Report: ZLC-2013-4**  
**Scenario Planning: A Tool to Prepare for the Future**  
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# Scenario Planning: A Tool to Prepare for the Future

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## Summary:

This thesis tackles the question of how organizations can prepare for the future in a world in which the only constant is change. This project is an attempt to take an alternative perspective in planning for the future. Applying the framework used in Scenario Planning, a structured approach is elaborated to describe a replicable methodology for sensing critical uncertainties in the external environment.



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## KEY INSIGHTS

1. It is possible to navigate future uncertainty through the use of a methodological approach known as Scenario Planning.
2. A set of possible and plausible futures were developed as a range around which the organization can envision their future.
3. A set of Forward-Looking indicators were developed as ground sensors that the organization can use for strategic purposes.

## Introduction

The ability to strategically plan for the future is a key element in the success of Supply Chain Networks. Traditionally, forecasts have been used to guess how the future may be, but in the long run, forecasts tend to be wrong. Alternatively, key performance indicators (KPIs) have provided organizations with an opportunity to visualize a 'rear-view' picture of what has occurred in the past and is occurring in current operations. 'Side-view' visualization could also be done through complex analysis using deep dives into big-data made available through the use of advanced Enterprise Resource Planning (ERP) systems. This viewpoint can also be complemented by using

traditional benchmarking comparative analysis within and across industries. These forms of indirect vantage points of the state of an organization and its immediate environment provide limited guidance that can be useful for correctly and accurately foreseeing what is coming ahead.

This research attempts to develop a framework that will explore the possibility of developing a new breed of indicators that will provide forward-looking guidance, which can help organizations strategize accordingly in response to the ever changing scenarios within and outside the company, industry, and market environments. Through the careful analysis of how these indicators evolve, organizations can be guided on the appropriate management direction and strategy that should be employed in order to remain profitable and competitive in their environments.

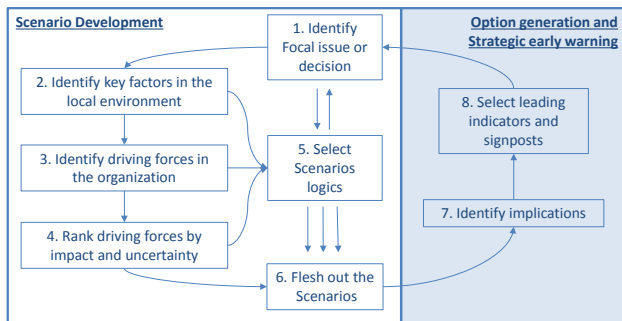
An application of the Scenario Planning methodology was specifically demonstrated on the supply chain operations of the sponsoring company, a leading manufacturer of specialty chemical products catering to the business-to-business market.

## Methodology for Scenario Planning

Scenario Planning is a long-range planning process that is based on understanding the nature and impact

of the most uncertain yet important *Driving Forces* affecting the world. Scenarios are described as “carefully constructed plots that make the significant elements of the world scene stand out boldly” (Schwartz, 1996). It is a group thinking process that encourages knowledge exchange and development of mutual deeper understanding of central issues important to the future of the business.

The steps for creating scenarios under the Intuitive Logics school’s methodology for scenario planning were first articulated in the book called “*The Art of the Long View*” (Schwartz, 1996).



There are eight steps outlined in this methodology, but the processes were only described without specifying how each step should be carried out to replicate the methodology. This rationale was based on the assumption that scenario creation is a developed skill and cannot be made from recipes.

### Scenario Development Process

The research activities were limited on the application of the steps related to: (1) the exploration and prioritization of the *Driving Forces* and *Local Factors*, (2) scenario logics development, and finally (3) indicators development.

The scope of the scenario creation process was also determined to be the Asian Pacific region for a time horizon of ten years and with a specific focus on the sponsoring company’s supply chain strategy.

### Exploration and prioritization of the *Driving Forces* and *Key Local Factors*

In order to develop scenarios, the first thing that needs to be done is an analysis of the organization’s competitive environment. This analysis needs to be from both the internal and external environments. First, key *Local Factors* need to be identified and prioritized. These *Local Factors* are closely related to the organization’s internal capabilities, which directly impact performance and can be influenced by executive decisions of managers. In the case of an organization’s supply chain, internal capabilities such as the level of talent of existing workforce will directly

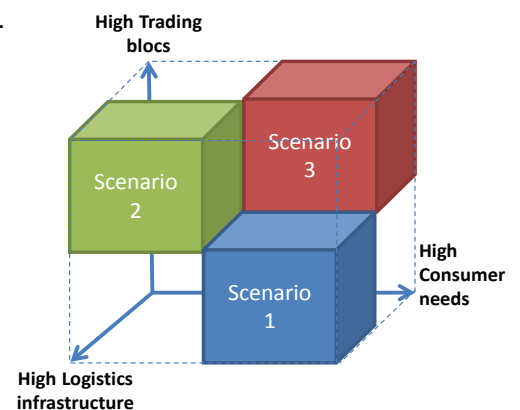
influence the failure or success of supply chain initiatives.

*Driving Forces*, on the other hand, are circumstances in the external environment that could have major impact on the business (specifically and directly on the internal *Local Factors* discussed above) but these forces are essentially outside the organization’s own control. In contrast to the *Local Factors*, the organization does not have direct influence to the future direction of these forces. The organization is just a passive recipient of the effects of these changes. Examples of these *Driving Forces* are changes in consumer needs/demand patterns and the formation of trading relationships between countries, among others.

These *Driving Forces* and *Local Factors* need to be identified by the organization so that they can be prioritized based on degree of impact to their business and the degree of their uncertainty in the future. In the case of this study, the identification was carried out through preliminary research on the industry that was the basis of a set of questionnaire used in a workshop among a group of internal supply chain experts in the sponsoring company. Finally, a prioritization of the aforementioned *Driving Forces* was done through a modified Delphi process that included inputs from a group of high level executives within the company.

### Scenario Logics development

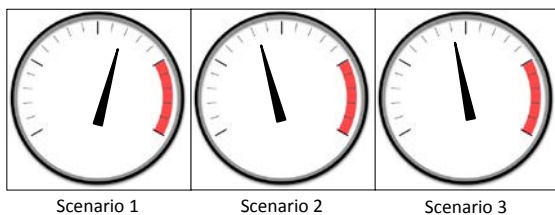
Once the *Driving Forces* and *Local Factors* were prioritized by impact and uncertainty, the three *Driving Forces* with the highest impact on the organization were used to form the axes along which different scenarios would diverge. In the case of this study, the identified *Driving Forces* were (1) the emergence of trading blocks, (2) the change in consumer needs, and (3) the availability of logistics infrastructure in the region. Based on these *Driving Forces*, three scenarios logics were created based on the two-win one-loss combination, where two of the *Driving Forces* took a high value and the third a low value.



## Indicator development

Scenario monitoring can be facilitated by reading a set of leading indicators and signposts that may give insights regarding the actual direction of how the future is unfolding by comparing them to the contents of the developed scenarios. This can be done by using indicators that are directly and indirectly related to the identified *Driving Forces* that define the critical uncertainties of the created scenarios. Two types of leading indicators can be used for scenario monitoring.

The first type of indicators are more quantitative in nature and are directly related to the prioritized *Driving Forces*. In this study, the indicators developed were based on measuring (1) the number of free trade agreements signed in the region as a measure of emergence of trading blocks, (2) the per capita GDP as a measure of changing consumer needs, and (3) the combination of road, rail, and air infrastructure statistics as a measure of development in logistics infrastructure. Integrating these three indicator measures into a single Scenario Score, a scenario monitoring dashboard was proposed to detect the status of each of the three scenarios.



The second type of indicators developed are more qualitative in nature and are known as 'weak-signals'. These indicators are based on news and information that are expected to potentially escalate a series of changes that will un hinge the *Driving Force's* trajectory. Two examples of this type of indicators were elaborated: (1) the rise to power of Aung San Suu Kyi in Myanmar and (2) the Construction of the Thailand Canal.

## Managerial Implications

This thesis project has been an initial attempt to introduce the Scenario Planning methodology to the sponsoring company as a tool that can help them navigate their supply chain through the uncertainty of today's world.

Above and beyond the understanding of how these dynamic forces interact to form a range of plausible futures, the value of Scenario Planning can also be seen on their implications on the strategic positioning of an organization. In this thesis project, how to evaluate these strategic implications was not covered in the original scope of the project and therefore was

not elaborated in much detail. It is recommended that the sponsoring company devotes more time and resources to understand these implications and as a next step design a way to assess these implications as they are critical to the true potential of the methodology.

## Conclusions

In today's managerial world, companies struggle to find ways to prepare for the future, especially in the supply chain arena. In this thesis project, an alternative methodology to tackle this situation was demonstrated in the form of Scenario Planning. The choice of this approach is counter to the inward perspective of measuring performance in sensing the current state of the organization. Scenario Planning has offered a wider outward perspective in looking at where the company is in relation to its environment. This viewpoint offers a definite advantage in better positioning organizations for the future.

Three main contributions were seen in this research.

- First, how scenarios are efficiently created was demonstrated. In this thesis project, the main structures for creating vivid descriptions of three distinct plausible versions of the future were laid out in the form of scenario logics that can be used as the foundation for creating storylines that can be utilized for strategic and sensing purposes.
- Second, a straightforward framework to monitor scenario evolution was presented. For this, a simplified methodology to monitor scenario evolution was demonstrated through identifying and measuring key 'ingredients' that indicate the relative position of the present versus the developed scenarios. The Scenario Scores represented the measurement of how much of each scenario has already come to reality. In addition, 'weak-signals' also have to be monitored to ensure that immeasurable changes in the external environment are also taken into consideration.
- Third and most importantly, an elaboration on the whole Scenario Planning Process was developed; this is by far the most important contribution of the thesis project, not only to the sponsoring company, but also within Scenario Planning literature as a whole.

## Major Reference

Schwartz, P., 1996. *The Art of the Long View: Planning for the Future in an Uncertain World*. New York: Bantam Doubleday Dell Publishing Group, Inc.